

GAO

November 1998

GENDER ISSUES

Information to Assess Servicemembers' Perceptions of Gender Inequities Is Incomplete



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**National Security and
International Affairs Division**

B-279460

November 18, 1998

Congressional Committees

In recognition of the integral part women play in the all-volunteer force, the National Defense Authorization Act for Fiscal Year 1998 directed us to conduct a study on any inequalities or perceptions of inequalities in the treatment of men and women in the armed forces that are tied to statutes and regulations governing the armed forces. The purpose of this report is to (1) identify perceptions of gender inequities found in various surveys and studies of male and female servicemembers and (2) examine what available data and studies reveal about those perceptions.

This report includes recommendations which, if implemented, should help the Department of Defense assess the validity of the perceptions that military men and women have about inequities in the areas of career opportunities and fitness standards. We are sending copies of this report to interested congressional committees and Members of Congress; the Secretaries of Defense, the Army, the Air Force, and the Navy; and the Commandant of the Marine Corps. We will make copies available to other interested parties upon request.

Please contact me at (202) 512-5140 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix II.

A handwritten signature in black ink that reads "Mark E. Gebicke".

Mark E. Gebicke
Director, Military Operations
and Capabilities

B-279460

List of Congressional Committees

The Honorable Strom Thurmond
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Ted Stevens
Chairman
The Honorable Daniel Inouye
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Floyd Spence
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on National Security
House of Representatives

The Honorable C.W. Bill Young
Chairman
The Honorable John Murtha
Ranking Minority Member
Subcommittee on National Security
Committee on Appropriations
House of Representatives

B-279460

Executive Summary

Purpose

In recognition of the integral part women play in the all-volunteer force, the National Defense Authorization Act for Fiscal Year 1998¹ directed GAO to conduct a study on any inequalities or perceptions of inequalities in the treatment of men and women in the armed forces that are tied to statutes and regulations governing the armed forces. The purpose of this report is to (1) identify perceptions of gender inequities found in various surveys and studies of male and female servicemembers and (2) examine what available data and studies reveal about those perceptions.

Background

The role of women in the military has changed dramatically over the years. For example, women were not allowed to constitute more than 2 percent of the services' authorized strength or be permanently promoted beyond the rank of lieutenant colonel until 1967. In 1969, the Air Force opened its Reserve Officers' Training Corps program to women and the other services opened their programs in 1972. In 1976, women enrolled in the service academies for the first time and in 1978, women were permitted to serve permanently on ships not expected to be used in combat. In 1991 and 1993, significant changes occurred in legislation with the lifting of the bans on women flying Navy and Air Force combat aircraft and serving on combat ships. In 1994, the assignment policy for women was liberalized across the Department of Defense (DOD) to expand opportunities. With certain exceptions, under the current policy, women can be assigned to almost all positions, except those involving direct ground combat. Women now comprise about 14 percent of the armed forces, up from less than 2 percent in 1973.

As the number of women in the military increases and the role of women in the military changes, researchers, both in and out of the military, have been studying servicemembers' attitudes about the military and their views regarding how the military treats men and women. Researchers have explored the perceptions of men and women with regard to gender equity in a variety of areas, including ground combat, career development, and physical fitness. Information on the perceptions of male and female servicemembers came from a variety of surveys and studies conducted across DOD. Most of these research efforts collected perceptions largely through the use of focus groups or other qualitative data gathering methods that provide insights into attitudes, perceptions, and opinions. The perceptions cited are not necessarily representative of the entire military population and statistical estimates of how many people hold such views cannot be projected from the results.

¹Section 592, National Defense Authorization Act for Fiscal Year 1998 (P.L. 105-85, Nov. 18, 1997).

Results in Brief

Based on the various surveys and studies of perceptions of military personnel, articles in service-oriented publications, and discussions with experts in the military personnel area, GAO identified two major areas where studies indicate that servicemen and servicewomen perceive inequities:

- career opportunities (including assignment policies and other factors that may have an impact on career advancement) and
- physical fitness and body fat standards.

These areas of perceived inequities in the treatment of men and women are related to various DOD and service policies and programs, rather than specific statutes. The last statutory restriction on the assignment of women in the military was eliminated in 1993 when Congress repealed the restriction on the use of women on naval combat ships.

Some perceptions of inequality in the area of career opportunities involve various local assignment policies and practices established by unit commanders. Some women have raised concerns about being assigned to clerical and administrative positions instead of positions requiring the technical skills in which they were trained. Some women also believe that they are being denied opportunities to serve in positions that are legally open to them because of perceived unjustified prerequisite requirements for a certain kind of experience, such as being in the infantry, that is closed to women. GAO found that local commanders do have considerable latitude in how they assign their personnel and that some positions do carry prerequisite requirements for a skill or specialty that is closed to women. However, GAO found no existing studies that show the extent to which such practices take place or whether such policies and practices are inequitable.

Researchers have also found perceptions among some men and women that DOD's policy restricting women from occupations and units involved in direct ground combat affects their opportunities for promotions and career advancement. GAO found no studies that specifically addressed whether the ground combat exclusion policy has an inequitable impact on the career opportunities of men and women. Consequently, GAO examined the data submitted by the services as part of their annual equal opportunity assessments to determine whether men and women were selected at similar rates for promotion, key assignments, and professional

military education.² GAO's analysis of this data showed that the military selected men and women for promotion at basically similar rates over 80 percent of the time and selected men and women for key assignments and professional military education at similar rates approximately half of the time. In those cases where the selection rates differed, no clear pattern of a systematic advantage to either gender emerged—sometimes men had higher selection rates and sometimes women did. While this data provides some insights into the relative career success of servicemen and servicewomen, it does not address the specific perceptions of inequitable career opportunities raised by military personnel.

The services' physical fitness programs are another area where there are perceptions of inequality in the treatment of men and women. A 1997 RAND³ study stated that many servicemembers, men and women alike, believe that fitness standards are a measure of one's ability to perform in a combat environment. There is also a widespread perception that the existence of lower physical fitness standards for women amounts to a "double standard." However, the physical fitness program is actually intended only to maintain the general fitness and health of military members and fitness testing is not aimed at assessing the capability to perform specific missions or military jobs. Consequently, DOD officials and experts agree that it is appropriate to adjust the standards for physiological differences among servicemembers by age and gender. Thus, the mere existence of different fitness standards for each gender, that do not require women to run as fast as men or to perform as many push-ups, does not constitute a "double standard." General physical fitness standards can be different for men and women without necessarily being inequitable.

Many military women have also expressed concerns about the fairness of the service's body fat standards, which they perceive as unrealistic, biased, and selectively enforced to the detriment of women. In a recent study, GAO found that (1) service body fat standards were not always based on scientific data, (2) differences in each service's equations for estimating body fat can result in widely varying estimates of the percent of body fat for the same woman, and (3) changes in the mix of ethnicity and other population characteristics of the current military call into question the

²Gender Issues: Analysis of Promotion and Career Opportunities Data (GAO/NSIAD-98-157, May 26, 1998).

³Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand, 1997) p. 47.

representativeness of the populations used to develop the equations.⁴ Consequently, it is not possible to assess whether the services' body fat standards are fair to both men and women.

Principal Findings

Data to Assess Perceived Inequities in Career Opportunities Is Incomplete

The concerns of servicemen and servicewomen regarding the equity of career opportunities were generally not centered around the selection process itself. Rather, the concerns were focused on factors seen as either enhancing or inhibiting career opportunities, such as their ability to compete for key positions, the extent to which they have the opportunity to use the skills in which they were trained and gain the necessary experience for advancement, and the impact of the ground combat exclusion policy.

Service-specific policies, as well as official and unofficial local assignment policies and practices established by unit commanders, generate some perceptions of inequality. For example, many enlisted women in the Army, the Navy, and the Air Force told researchers that women were sometimes assigned to clerical and administrative positions instead of positions requiring the technical skills in which they were trained. These women believed that this made them less competitive for career advancement because they did not get the technical experience necessary to advance in their careers. Some female officers report that they are being denied opportunities to serve in positions that are legally open to them and are being assigned to less prestigious positions or to jobs traditionally held by women to the detriment of their careers. Some women believed that unjustified requirements for a certain kind of experience that was closed to women, such as being in the infantry, were unfairly added as a prerequisite for otherwise gender-neutral positions, effectively foreclosing these opportunities.

GAO found that some positions do carry prerequisite requirements for a skill or specialty that is closed to women. For example, the drill sergeant position in the Army is listed as being open to women, yet some are coded as requiring infantry skills. In addition, local commanders can assign their personnel as they see fit. For example, a commander may assign a given

⁴For a more detailed analysis of service physical fitness programs, see Gender Issues: Improved Guidance and Oversight Are Needed to Ensure Validity and Equity of Fitness Standards (GAO/NSIAD-99-9, Nov. 17, 1998).

subordinate, male or female, to function primarily administrative in nature. However, neither DOD nor the services have conducted studies specifically addressing whether women are negatively affected by such policies and practices more often than men.

A key factor cited by both men and women is DOD's direct ground combat exclusion policy. According to a recent GAO study of this policy, over 190,000 positions are closed to women because they involve direct ground combat or operate alongside ground combat units.⁵ The perceptions of the impact of this policy on career opportunities varies between men and women and officers and enlisted personnel in the studies GAO reviewed. One study reported that at least half the female enlisted personnel, non-commissioned officers, and officers surveyed believed that the combat exclusion policy hurt their career security and promotion opportunity because it prevented them from serving in the kinds of "ticket punching" assignments associated with advancement to higher ranks.⁶ Another study of the attitudes of Army men and women revealed that some men believe the combat exclusion policy is advantageous to women because it gives them more time for career-enhancing education and training and earlier opportunities for higher-echelon assignments.⁷

Again, neither DOD nor the services has conducted a specific assessment of the effects of the ground combat exclusion policy on the career opportunities of men and women. However, data was available on selection rates for promotion to top non-commissioned officer and non-flag officer grades, most key assignments to positions such as command or executive officer positions, and the primary intermediate and senior level professional military education. Although this data has some limitations with regard to addressing perceptions about career opportunities, it can provide some insights regarding relative career success of men and women in the military. Meaningful analyses of promotions of women to flag officer ranks were not possible because many of the women who entered the regular officer corps after the Reserve Officers' Training Corps and the service academies were opened

⁵Gender Issues: Information on DOD's Assignment Policy and Direct Ground Combat Definition (GAO/NSIAD-99-7, Oct. 19, 1998).

⁶Laura Miller, "Feminism and the Exclusion of Army Women from Combat," Working Paper No. 2, Project on U.S. Post-Cold War Civil-Military Relations, John M. Olin Institute for Strategic Studies, Harvard University, 1995, p. 12.

⁷Laura Miller "Not Just Weapons of the Weak: Gender Harassment as a Form of Protest for Army Men," *Social Psychology Quarterly*, Vol. 60, No. 1, (1997) pp.45-46.

to women are not yet at the normal phase point to be competitive for flag officer positions.

The information on the selection rates for promotions, key assignments, and professional military education was taken from a GAO report issued in May 1998. To determine whether the rates differed significantly for men and women, GAO used the four-fifths test, which is a rule-of-thumb adopted by the federal agencies responsible for equal employment opportunity enforcement. According to this test, a selection rate for a subgroup that is less than four-fifths (or 80 percent) of the rate of the group with the highest selection rate is considered a significantly different rate.

For promotion selections, GAO analyzed the decisions made by 58 officer promotion boards and 60 enlisted boards or examinations from fiscal years 1993 through 1997. GAO found that, the military as a whole selected men and women for promotion to the top three non-flag officer and enlisted grades at similar rates in about 81 percent of the promotion boards or examinations reviewed. Of the remaining instances, 15 percent were in favor of women, and 3 percent were in favor of men. In several cases, the small number of women eligible for consideration compared to men resulted in a situation where the selection of one servicemember more or less would have changed the characterization of the selection rate from similar to different, or vice versa.

For key assignment selections, the military as a whole selected men and women at similar rates in about 53 percent of the selection processes GAO reviewed. For the remaining selections where there were significant differences in selection rates, 32 percent were in favor of men, and 15 percent were in favor of women. Across the four services, the military selected men and women for professional military education at basically similar rates in about 46 percent of the board or decentralized selections. The remaining 54 percent of the selections slightly favored women, 29 to 25 percent. In some of the services, the data for officers included only those who were nominated for key assignments and professional military education. Consequently, the data would not identify any disparities in the rates at which eligible male and female officers were nominated.

Different Fitness Standards for Men and Women Do Not Necessarily Constitute a Double-Standard

DOD requires each service to establish a physical fitness and body fat program. DOD guidance sets out annual fitness testing requirements for all servicemembers. Annual testing is conducted in three areas: cardiovascular endurance (measured by activities such as running a

certain distance within a specified period of time), muscular strength and endurance (measured by activities such as push-ups and sit-ups), and maintenance of body fat within a certain percentage range.

A 1997 RAND⁸ study found that many servicemembers believe that the services' general physical fitness standards are related to one's ability to perform in a combat environment or are related to a specific job or occupation. Many see the existence of different physical fitness standards for men and women as a "double standard" and evidence that women will perform less well in a combat environment. Some men question whether women are capable of performing physically-demanding jobs. Some of these views may be the result of confusion regarding the two kinds of physical requirements that a servicemember may have to meet: general physical fitness standards and job-specific physical performance standards.

Each service tests its personnel against general physical fitness standards that apply to all members regardless of occupation. According to DOD, these standards are intended only to set a minimum level of general fitness and health for military personnel and are not directly related to job performance. These general fitness standards are not intended to specifically enhance the performance of a particular service mission or job, and research⁹ has identified little correlation between performance on fitness tests and specific military task performance.

The purpose of job-specific physical performance standards, on the other hand, is to ensure that those personnel assigned to physically-demanding jobs are capable of performing the requirements of those jobs. The Secretary of Defense is required by law to prescribe physical performance standards for any occupation for which the Secretary determines strength, endurance, or stamina are essential to performance.¹⁰ For any occupation for which both men and women are eligible to serve, the law specifically prohibits adjusting performance standards for gender.

The 1992 President's Commission on the Assignment of Women in the Armed Forces looked closely at the issue of physical strength and endurance requirements. The Commission concluded that since general

⁸Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand, 1997) p. 47.

⁹Assessing Readiness in Military Women: The Relationship of Body Composition, Nutrition, and Health (Washington, D.C.: National Academy Press, 1998).

¹⁰Section 543, Fiscal Year 1994 National Defense Authorization Act (P.L. 103-160, Nov. 30, 1993)

physical fitness standards are established to promote the highest level of general wellness in the armed forces and are not aimed at assessing capability to perform specific jobs or missions, it is appropriate to adjust the standards for physiological differences among servicemembers. As allowed by DOD guidance, each of the services has established fitness standards keyed to the age and gender of the servicemember. Different fitness standards for men and women are intended to compensate for the physiological differences between them. Different fitness standards for men and women do not constitute a "double standard" as long as meeting the male and female standards requires the same relative degree of health and conditioning.

Lack of Scientific Basis for Fitness and Body Fat Standards Makes Assessment of Gender Equity Problematic

Researchers have found that many men and women believe that the women's standards are much easier for women to meet than the men's standards are for the men to meet. However, it is not possible to assess the accuracy of this perception at this time because the services have generally not used a scientific basis to set the fitness standards for women. The fitness standards for men have usually been based on actual test performance data, whereas the female standards were often estimated, inferred from male data, or based on command judgment. For example, in September 1998, the Navy lowered by as much as 1 minute 15 seconds, the maximum time allowed for women under 30 years old to complete the 1-1/2 mile run. The reduction in the time allowed for these women to complete the run was not based on actual performance times. This change was made because officials believed that the previous 4-minute difference between the men's and women's standards in certain categories was not appropriate and that female standards needed to be more stringent.

Women from all services have also expressed concerns about the fairness of the services' body fat standards. Some women perceive these standards to be unrealistic, biased, and unfairly enforced. GAO found that women's body fat standards were not based on scientific data. Instead, these standards were inferred from male standards or based on command judgment regarding appearance. Also, researchers found that the equations used by each service to determine body fat do not yield consistent results for women because the equations do not adequately adjust for the greater variety of female body types. In a GAO test case, the Army's equation estimated one woman's body fat at 42 percent, whereas the estimated percentage of body fat for the same woman was 29 percent using the Navy and the Air Force equations and 27 percent using the Marine Corps equation. In addition, the equations currently in use do not

account for racial differences in bone density, raising the potential for overstating the percentage of body fat of minority servicemembers. Moreover, researchers also report that the population of active-duty women used to develop the equations have, with time, become less representative of the ethnic and age diversity of the current military population.

The services do not maintain the necessary statistics to determine if it is easier for men or women to meet the fitness standards or if women fail the body fat test at a higher rate than men. Basic information about the program is either unavailable or highly decentralized and not easily accessed. For example, the Navy does not separate its program statistics by gender, so gender comparisons are not available. The Army maintains fitness performance information at the unit level and does not maintain a servicewide database. Other problems include unavailable data, unreliable data due to unit under reporting, and data not separated to identify characteristics such as rank.

In its November 1998¹¹ report on the services' physical fitness programs, GAO made recommendations to improve the services' physical fitness programs. These included establishing (1) a clear DOD-wide policy for age-based and gender-based adjustments to general fitness and body fat standards, requiring all services to derive them scientifically and (2) a DOD-wide approach to scientifically estimating body fat percentages. GAO also recommended that the Secretary of Defense define the statistical information needed to monitor fitness trends and ensure program effectiveness, and require that this information be maintained by all services and provided in the currently required annual reports. DOD concurred with GAO's recommendations. Implementing a more scientific approach to establishing standards and collecting program evaluation data could be useful in assessing whether the physical fitness program is equitable to both men and women. It could also help to dispel the misconceptions that fitness standards measure a servicemember's ability to perform in the military and that different standards for men and women constitutes a "double standard."

Recommendations

To provide DOD and service officials with information to address perceptions of gender inequities in position prerequisites and skill utilization, GAO recommends that the Secretary of Defense direct the services to assess whether

¹¹Gender Issues (GAO/NSIAD-99-9, Nov. 17, 1998).

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- requirements for skills or specialties that are presently closed to women or have only recently been opened to women are being used inappropriately as prerequisites for positions that are otherwise open to women and
 - men or women are receiving an equal opportunity to work within the area of their military specialties.

Agency Comments and GAO's Evaluation

DOD generally agreed with GAO's findings and recommendations and said that the Department would work with the services on methodologies to assess the issues discussed in the recommendations within the next 18 months. Additionally, DOD acknowledged that servicemembers may have various perceptions, but stressed that the perceptions may not be supported by facts. GAO agrees that various perceptions may be inaccurate, which reinforces the need to assess whether perceptions are supported by the facts. Regarding GAO's findings on DOD's physical fitness and body fat standards, DOD noted that since 1996, the services have made progress in adjusting standards based on more objective data and have worked cooperatively to resolve research issues. Furthermore, DOD said that developing standards for general fitness and health is a complex matter, where academic and research experts often differ on conclusions and research. DOD's comments are reprinted in their entirety in appendix I and are also summarized throughout the report where appropriate. DOD also provided technical comments concerning factual information in this report, and GAO has modified the report where appropriate.

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Abbreviations

DOD	Department of Defense
DACOWITS	Defense Advisory Committee on Women in the Services

Introduction

The number of women in the military has grown significantly in recent decades. Women now make up about 14 percent of the active duty force, up from less than 2 percent in the early 1970s. Their role has also evolved from the traditional concentrations in medical and administrative occupations to almost all military occupations, including air, sea, and combat support positions. The growing role of women has resulted in debate within and outside the Department of Defense (DOD) over fundamental and sometimes contentious issues regarding the treatment of men and women in the military.

In recognition of the integral part women play in the all-volunteer force, the National Defense Authorization Act for Fiscal Year 1998¹ directed us to conduct a study on any inequalities or perceptions of inequalities in the treatment of men and women in the armed forces that are tied to statutes and regulations governing the armed forces. The purpose of this report is to (1) identify perceptions of gender inequities found in various surveys and studies of male and female servicemembers and (2) examine what available data and studies reveal about those perceptions.

Various surveys and studies indicate there are two major areas where servicemen and servicewomen perceive inequities: career opportunities (including assignment policies and other factors that may have an impact on career advancement) and physical fitness and body fat standards. These areas of perceived inequities in the treatment of men and women are related to various DOD and service policies and programs, rather than specific statutes. The last statutory restriction on the assignment of women in the military was eliminated in 1993 when Congress repealed the restriction on the use of women on naval combat ships.

Uniformed members of the armed forces are not covered by the same equal employment opportunity laws as the general public. However, the Secretary of Defense has established a separate equal opportunity program with similar requirements for these personnel. In 1969 and 1994, DOD issued a Human Goals Charter, stating that DOD is to strive to provide everyone in the military the opportunity to rise to as high a level of responsibility as possible based only on individual talent and diligence. The charter also states that DOD should strive to ensure that equal opportunity programs are an integral part of readiness and to make the military a model of equal opportunity for all regardless of race, color, sex, religion, or national origin. To carry out this mandate, a 1995 directive and related instruction outlines DOD's equal opportunity program, assigning

¹Section 592, National Defense Authorization Act for Fiscal Year 1998 (P.L. 105-85, Nov. 18, 1997).

responsibility for ensuring compliance with the broad objectives set out in the charter, and establishing departmentwide standards for discrimination complaint processing and resolution²

Women's Role in the Military Has Grown

The role of women in the military has changed dramatically over the years. At the time of World War II, the only women in the armed services were nurses. Increasing manpower requirements caused the services to begin enlisting women and, in 1942, the Army established the Women's Army Auxiliary Corps (which later became known as the Women's Army Corps). Shortly after, the Navy established the WAVES and Marine Corps began accepting women.

The Women's Armed Services Integration Act of 1948 made the inclusion of women in the military permanent, but limited their numbers, ranks, and roles. The act established the Women's Army Corps as a part of the regular Army and permitted the enlistment and appointment of women to the regular Air Force, Navy, and Marine Corps. In addition, the act limited the number of women in the services to 2 percent of the services' authorized strength and prohibited the promotion of women above the rank of lieutenant colonel or commander. Furthermore, the act barred women from serving on Navy ships, except hospital and transport ships, and from serving on Navy and Air Force aircraft while such aircraft were engaged in combat missions. There was no legal prohibition of women serving in direct ground combat roles. However, as a matter of policy, the Army did not assign women to such roles. Because the Marine Corps is a naval oriented air and ground combat force, the exclusion of women from Navy ships essentially barred them from combat positions in the Marine Corps as well.

The late 1960s and 1970s was a time of great change for the women in the military. In 1967, Congress removed the 2-percent ceiling on regular line officers and enlisted strength and eliminated the promotion restrictions. The Air Force opened its Reserve Officers' Training Corps program in 1969 and, by 1972, the other services had opened their programs. In 1976, women enrolled in the service academies for the first time. In 1978, the Women's Armed Services Integration Act of 1948 was amended to permit women to serve on ships that were not expected to be assigned combat missions and to serve up to 6 months on other Navy ships. Finally, in 1978, Congress abolished the Women's Army Corps and women were integrated

²DOD Directive 1350.2, DOD Military Equal Opportunity Program, dated August 18, 1995, and DOD Instruction 1350.3, Affirmative Action Planning and Assessment Process, dated February 29, 1988.

into the regular Army. In 1988, DOD adopted the "risk rule" as a departmentwide policy for women. The risk rule excluded women from non-combat units or missions if the risks of exposure to direct combat, hostile fire, or capture were equal to or greater than the risk in the combat units they support. The rule was devised to standardize the criteria for determining which positions and units would be closed to women in the services. Each service interpreted the risk rule according to its mission requirements in evaluating whether a non-combat position should be open or closed to women.

The Gulf War saw the largest deployment of women in U.S. military history. Approximately 41,000 women were deployed, or 7 percent, of the total forces. In part, because of women's performance in the war, the last remaining legislative restrictions regarding the assignment of women were lifted. In 1991, Congress repealed the restriction on women flying combat aircraft in the Air Force and the Navy; however, DOD did not implement that change until April 1993. In November 1993, Congress lifted the ban on the assignment of women to combat ships.

Women now comprise about 14 percent of the armed forces. The percentages vary among the services from about 5 percent in the Marine Corps, 13 percent in the Navy, 15 percent in the Army, and 17 percent in the Air Force. Table 1.1 shows the number and percentage of men and women in the services as of September 30, 1997.

Table 1.1: Composition of the Military Services by Gender

Service	Total personnel	Women		Men	
		Number	Percent	Number	Percent
Air Force	373,357	65,176	17.5	308,181	82.5
Army	487,812	72,238	14.8	415,574	85.2
Navy	390,477	49,110	12.6	341,367	87.4
Marine Corps	173,976	9,286	5.3	164,690	94.7
Total DOD	1,425,622	195,810	13.7	1,229,812	86.3

Source: Military Service Fiscal Year 1997 Military Equal Opportunity Assessment Reports.

Current DOD and Service Assignment Policies and Practices

When Congress acted in 1993 to lift the ban on the assignment of women to combat ships, it eliminated the final statutory barrier to women in combat. In January 1994, the former Secretary of Defense announced a new assignment policy to go into effect October 1, 1994, to replace the risk rule. That new policy, which is still in effect, states that "servicemembers

are eligible to be assigned to all positions for which they are qualified, except that women shall be excluded from assignments to units below the brigade level whose primary mission is to engage in direct combat on the ground.” The impact of DOD’s ground combat exclusion policy is greatest in the Army and the Marine Corps and has very little impact in the Air Force and the Navy.³

In addition to establishing the direct ground combat exclusion in 1994, the Secretary of Defense also permitted the services to close positions to women if (1) the units and positions are required to physically collocate and remain with direct ground combat units; (2) the service secretary attests that the cost of providing the appropriate living arrangements is prohibitive; (3) the units are engaged in special operations forces’ missions, including those involving long-range reconnaissance; or (4) job-related physical requirements would exclude the vast majority of women. As of October 1998, a total of 119,353 positions were closed to women for these reasons.

Although women are no longer prohibited by law from serving on combat ships, a portion of the Navy’s combat fleet is still closed to women. Women cannot serve on submarines, mine hunter, mine countermeasure, or coastal patrol ships. These ships are closed to women because of the cost of providing appropriate living arrangements. Many of the Navy’s remaining combat ships are open or will be opened to women as the necessary modifications to provide appropriate living spaces are made. The Navy currently has a combat fleet of 298 ships. As of June 30, 1998, women were serving on about one-third of the combat fleet—68 combatant ships have female enlisted personnel and officers and 29 ships have female officers. This represents about 66 percent of the combat ships that are eventually to be opened to women. Generally, women constitute about 10 percent of the shipboard personnel. Women and men can only be assigned to a ship if a gender-appropriate living space is available. The availability of bunks, the Navy’s sea-shore rotation requirements, and the number of women in occupations needed aboard ships all impact the number of enlisted women that can be assigned to Navy ships.

The local policies and practices of military commanders can also affect assignments. Military commanders have considerable discretion to assign personnel under their command.

³For more information on the numbers and types of positions closed to women and the associated justifications for closure see Gender Issues (GAO/NSIAD-99-7, Oct. 19, 1998).

Processes Used for Promotions and Selections for Key Assignments and Professional Military Education

The services conduct centralized promotion boards for officer promotions. Each promotion board reviews all qualified candidates being considered for promotion to a given rank. For enlisted promotions, the services generally conduct examinations or boards for promotions. A system similar to that used for officer promotions is used for enlisted promotions in the Marine Corps.

Officer promotion selection boards consider three cohort groups known as “below the zone,” “in the zone,” and “above the zone.” Most promotions are in the zone, which is considered the normal length of service for promotion for that cohort group. However, a relatively small number of officers who have demonstrated outstanding leadership potential are promoted ahead of their cohort group, or below the zone. Similarly, a small number of officers are promoted after their cohort group, or above the zone.

Key assignment selection procedures differ among the services. The Marine Corps and the Navy conduct a centralized board process to rank nominated candidates while the selection process is generally decentralized in both the Army and the Air Force. The Army conducts a centralized board process for selection to command sergeant major, lieutenant colonel command assignments, and colonel command assignments. The Air Force changed its procedures for colonel-level key assignments in fiscal year 1996. In earlier years, the Air Force conducted a board process for nominated colonels only. Since 1996, the Air Force has conducted boards for all colonels.

Each service selects members for professional military education opportunities by conducting centralized boards. All of the services provide professional military education opportunities to both officers and enlisted servicemembers; however, not all of these opportunities were included in the data we reviewed.

DOD’s Physical Fitness and Body Fat Program

DOD’s guidance, established in June 1981 and updated in 1995, requires that the services establish physical fitness and body fat programs that include fitness requirements for all servicemembers. This guidance requires annual testing of cardiovascular endurance (measured by activities such as running a certain distance within a specified period of time), muscular strength and endurance (measured by activities such as push-ups and sit-ups), and maintenance of body fat within a certain percentage range. The Assistant Secretary of Defense for Force Management Policy is

responsible for oversight of the program and coordinating with the Assistant Secretary of Defense for Health Affairs, who is responsible for establishing a health promotion program to be implemented in conjunction with the fitness program.

Program guidance states that individual servicemembers need to possess cardiorespiratory endurance, muscular strength and endurance, and whole body flexibility. However, the guidance does not identify requirements for specific activities or levels of difficulty. DOD guidance states that each service should develop its own program according to its particular needs, placing primary emphasis on maintaining general health and physical fitness. The guidance requires fitness testing standards to be adjusted for physiological differences between men and women. The services may also adjust the fitness standards for age.

DOD's guidance also sets out body fat control policies and procedures. The guidance requires the services to use a two-tier screening process. If a servicemember exceeds the weight parameters for his or her height in a screening table or the member's immediate commander determines that his or her appearance suggests an excess of body fat, then the servicemember's percent of body fat is to be estimated. DOD requires the services to use similar validated circumferential equations for the prediction of body composition. The men's equation involves measurements of the neck and waist or abdomen. The women's equation requires measurement of the hips, waist, and neck, but allows for optional measurements of the abdomen and wrist, and/or forearm.

For both the fitness and body fat components of the program, servicemembers who fail to perform successfully against the established standards are to be given at least 3 months to improve. Servicemembers who have not progressed during that time are to be referred to medical authorities for further evaluation. If servicemembers continue to fail over time they are to be considered for administrative separation under service regulations.

Scope and Methodology

To identify the perceptions of servicemembers, we reviewed studies, surveys, and articles, and spoke with military and civilian experts on gender issues. As agreed with congressional staff, we did not survey military personnel ourselves since considerable information on perceptions was already available. Recent studies have noted that servicemembers believe they have been over-surveyed on gender issues.

Researchers have explored the perceptions of men and women with regard to gender equity in a variety of areas, including the use of women in ground combat, career development opportunities, and physical fitness standards.

Information on the perceptions of male and female servicemembers came from a variety of surveys and studies conducted across DOD.⁴ Most of these research efforts collected perceptions largely through the use of focus groups or other qualitative data gathering methods that provide insights into attitudes, perceptions, and opinions. The perceptions cited are not necessarily representative of the entire military population, and statistical estimates of how many people hold such views cannot be projected from the results.

We obtained the services' Military Equal Opportunity Assessments for Fiscal Years 1993 to 1997 and used those submissions in our May 1998 report⁵ to determine whether the military was selecting men and women at similar rates for (1) promotion to top non-commissioned officer and non-flag officer grades, (2) key assignments (such as command or executive officer positions), and (3) the primary professional military education opportunities (such as the intermediate service schools and war colleges). This data provides a partial indication of career opportunities by showing the rate of promotion to higher ranks. Also, placement in key assignments and attendance at professional military education are considered to be important steps on the path to career success. This data, however, has some limitations with regard to addressing perceptions about career opportunities. For example, while the data address most of the services' promotions, it does not address promotions to flag officer ranks (Generals and Admirals). In addition, in some of the services, the data for officers only included those who were nominated for key assignments and professional military education. As a result, the data would not pick up any disparities in the rates at which eligible male and female officers were nominated. Meaningful analysis of promotions of women to flag officer ranks was not possible. As noted earlier, the Reserve Officers' Training Corps was opened to women by 1972 and the first service academy class to include women graduated in 1980. Consequently,

⁴Many of the perceptions in this report are those expressed by men and women in focus groups held by the Defense Advisory Committee on Women in the Services (DACOWITS) during their visits to military installations in 1996 and 1997 and included in their installation reports. DACOWITS meets with men and women at installations to gather their perceptions about life in the military. To honor the pledge of confidentiality given by DACOWITS to its participants, the names of the installations have not been included in this report.

⁵Gender Issues (GAO/NSIAD-98-157, May 26, 1998).

many of the women in the regular officer corps entered in the 1980s and are not yet at the normal phase point to be competitive for flag officer positions.

To determine whether selection rates were similar, we used the "four-fifths" test. This test is a rule-of-thumb adopted by the four federal agencies responsible for equal employment opportunity enforcement (the Department of Justice, the Department of Labor, the Equal Employment Opportunity Commission, and the Office of Personnel Management).⁶ Under the four-fifths test, a selection rate for a subgroup (in this report men and women) that is less than four-fifths (or 80 percent) of the group with the highest selection rate is considered a significantly different rate. One limitation with this test is that, when sample sizes are small, this test may flag a small difference as being significant. Likewise, for a large sample size, the four-fifths test may provide too much latitude before a difference would be seen as significant. For example, if 100 percent of one group received promotions and 80 percent of the other group received promotions, this would not be a significant difference under the four-fifths test even though there is a difference of 20 percentage points between the two groups. However, if 4 percent of one group received promotions compared to 3 percent of the other group, the four-fifths test would classify this difference as significant even though there is only 1 percentage point difference between the two groups.

The existence of significant disparities using the four-fifths test does not necessarily mean they are the result of unwarranted or prohibited discrimination. Many job-related or societal factors can contribute to gender disparities. Further analyses would be required to determine the cause(s) of significant disparities. In several cases, the selection of one servicemember more or less would have changed the characterization of the selection rate from similar to different, or vice versa.

To assess DOD and military service rationales for adjustments to the fitness standards for gender-based physiological differences, we reviewed DOD and service regulations, handbooks, and supporting documents; analyzed pertinent research and policy reports undertaken by DOD and a variety of independent civilian agencies; and discussed the results with officials and researchers from DOD, the military services, and the civilian agencies.

⁶See Uniform Guidelines on Employee Selection Procedures, 29 C.F.R. Part 1607 (1997). We recognize that title VII of the Civil Rights Act of 1964, which protects individuals against employment discrimination, does not apply to military personnel. See *Randall v. U.S.*, 95 F.3d 339.

To develop comprehensive information on physical fitness policies and programs and to gain insight into service implementation of the programs, we interviewed officials at both the DOD and service levels. At the DOD level, we interviewed officials from the Office of the Under Secretary of Defense for Personnel and Readiness, the Office of the Assistant Secretary of Defense for Force Management Policy, and the Defense Advisory Committee on Women in the Services. In the Army, we interviewed officials and researchers from the Assistant Secretary of the Army for Manpower and Reserve Affairs; the Office of the Deputy Chief of Staff for Personnel; the U.S. Army Physical Fitness School at Fort Benning, Georgia; and the U.S. Army Medical Research and Development Command at Fort Detrick, Maryland. In the Navy, we interviewed officials from the Bureau of Naval Personnel and the Naval Health Research Center in San Diego, California. In the Marine Corps, we interviewed officials from the Combat Development Command in Quantico, Virginia. In the Air Force, we interviewed officials from the Office of the Surgeon General.

To gain additional perspective on DOD and military service fitness policies, we reviewed reports and interviewed officials from a variety of independent civilian agencies, including the National Academy of Sciences; the National Institutes of Health; the Centers for Disease Control; the President's Council on Physical Fitness and Sports; the American Heart Association; and the Cooper Institute of Aerobics in Dallas, Texas.

We conducted our review between June and November 1998 in accordance with generally accepted government auditing standards.

Complete Data Not Available to Assess Whether Men and Women Are Treated Equitably in Career Opportunities

Perceptions of equity in the area of career opportunities vary by gender. Although some servicemembers expressed doubts about the processes used to make promotion or assignment decisions, most of the concerns raised were focused on factors that affected competitiveness for career advancement. However, no study has addressed the specific issues. Data does exist, however, on the rates at which the services selected men and women for most promotions, key assignments, and professional military education, as reported in our May 1998 report.

Men and Women Have Different Perceptions About Work and Assignments

Servicemen and servicewomen have complained to researchers about a variety of perceived inequities in the assignment process. Research suggests that assignment of some tasks can be based on stereotypes, paternalism, or fear.¹ Whatever the reason, the issue of assignments and who does what work appears to be the cause of considerable tension between men and women in the military. Additionally, research suggests that some of the services' assignment practices are the cause of much of the gender harassment and gender discrimination that takes place in the services.

Some servicewomen believe that women have to work harder than men to prove their abilities and that men often do not believe that women are qualified for the jobs they are assigned. As one Air Force woman stated, "If you are a man, you come to the job and are expected to know everything—until you prove otherwise. If you are a woman you're expected to know nothing until you prove otherwise."² Other women report that they are under closer scrutiny than their male peers and that a failure of one woman is used to criticize the ability of women in general.³

Many women report that they are not allowed to work at the jobs for which they were trained. They comment that they are routinely assigned clerical or administrative duties instead of being given the opportunity to work in the full range of their occupations. One junior enlisted woman in the Navy told researchers that she had been allowed to work in her occupation for only about 4 months in 4 years of active duty. A female airman told researchers "I'm a senior airman, I hate being treated like a secretary. I trained for my job and I want to do it." Some Army women said that they believe that they were losing mission readiness in their

¹Laura Miller, *Social Psychology Quarterly*, Vol. 60, p.47.

²DACOWITS.

³Laura Miller, *Social Psychology Quarterly*, Vol. 60, p. 37.

occupations because they get assigned to clerical positions. These women believe that this practice does not permit them to develop all of the experience and skills necessary to advance in their careers. Some female officers believe that they were being (1) kept from field positions and placed in less prestigious positions such as in training, (2) directed into positions with limited opportunities and low probabilities for advancement, or (3) placed in positions that were still perceived as "girls' jobs".⁴

Some men, particularly enlisted men, have told researchers that they believe less is expected of women than men when it comes to job performance. Men fear that women will claim sexual harassment if they are pushed too hard.⁵ Some men question women's abilities or commitment to perform their jobs effectively.⁶ They tell researchers that they believe that women do not want to do their jobs and that women try to avoid work and will use their femininity to avoid the tough dirty jobs. Some men believe that women deliberately get pregnant to avoid sea duty or deployments, and some complain that women are not required to do the heaviest or dirtiest part of any job and that they can get away without reprimand because of their sex. One enlisted man told a researcher, "Today all you hear in the Army is that we are equal, but men do all the hard and heavy work whether it's combat or not."⁷

There is a perception among some women that some jobs, which should be open, are effectively closed to them because these assignments require a skill or an experience as a prerequisite, which is not, or was not, available to them. For example, some Navy women noted that some shore based positions at the Navy's submarine bases, for example, the executive officer's position, are closed to women because the positions are coded as needing to be filled by a person from the submarine community, a community that is not open to women. Similarly, some Army women noted that at one gender-integrated command, all first sergeants must have experience in the combat arms. Some Army women also believe that some positions, such as operations officers at the brigade level or above, which are officially open to women, are, in reality, closed because the combat exclusion policy does not permit them to serve in lower echelon

⁴DACOWITS.

⁵Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand, 1997) pp. 73-74.

⁶Laura Miller, Social Psychology Quarterly, Vol. 60, p. 37.

⁷Laura Miller, Social Psychology Quarterly, Vol. 60, p. 46.

assignments where the prerequisite experience for these positions is gained. Similarly, the Air Force has non-flying positions on its headquarters staff, as well as some of its lower level commands, that require a fighter or bomber weapon systems qualification; these skills were closed to women until 1993.

Some Navy women also believe that it is difficult for women to get assigned to ships due to a lack of billets on gender-integrated ships. These women believe that this can negatively impact their careers. Researchers were told that women cannot progress in the Navy without the proper boxes being checked on their evaluation and that unless a woman has had command "afloat" she cannot advance. Some women also said that men who go to sea will always have a better chance for promotions than women who do not and, according to these women, few women get assignments on ships. Some Marine Corps women also believed that there are not enough ships open to women. Because of the lack of integrated ships, some women in integrated Marine Corps units are not able to deploy with their units. This can cause resentment among male troops.

A key factor cited by both men and women is the DOD policy excluding women from assignments involving direct ground combat. Our recent report on this policy found that over 190,000 positions across the four services are closed to women because they involve direct ground combat or collocate with units involved in direct ground combat.⁸ Although the ground combat exclusion policy bars women from direct ground combat and would, therefore, seem inherently inequitable to men because it exposes them to hazardous duty, a 1997 RAND study⁹ found that Army and Marine Corps men strongly support the ground combat exclusion policy. Navy officers and enlisted men were less supportive of this policy. While over 75 percent of Army and Marine Corps male officers and 57 percent of enlisted men were satisfied with the combat exclusion policy only 48 percent of the male Navy officers were satisfied with the policy. When the same question was asked of servicewomen, less than 22 percent of those who were surveyed agreed that women should continue to be excluded from direct ground combat. Branch of service was not a factor in the women's response.

The perception of the effect of the ground combat exclusion policy varies greatly between men and women and between officers and enlisted

⁸Gender Issues (GAO/NSIAD-99-7, Oct. 19, 1998).

⁹Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand, 1997) pp. 90-91.

personnel. For example, some Army men believe that the ground combat exclusion policy is an advantage to women. According to one study,¹⁰ some Army men believe that because women cannot be assigned to combat units, they have more opportunities to take advantage of training opportunities that make them more competitive for career advancement and promotions. This same study also reported that some Army men believed that the combat exclusion rule results in women getting better job assignments than their male counterparts, which again leads to faster promotions. One officer in the study said that male officers in his combat support branch typically start at the battalion level and move up to command a platoon in a company at the division level while women, because of the ground combat exclusion rule that prevents them from being collocated with ground combat units, often start at the division level without having to work their way up from the battalion level.

In contrast to the perceptions cited by the men, one study reported that 50 percent of the Army women surveyed believed that the combat exclusion policy hurt promotion opportunities for enlisted women.¹¹ In addition, 61 percent of the female Army officers surveyed believed that this policy had hurt promotion opportunities for female Army officers by keeping them from getting their "ticket punched" in areas that are seen as important avenues to advancement. Some women also believed that the policy kept them from gaining field experience at lower levels that is important to future advancement, making them less competitive for responsible and prestigious positions.

A few men and women have expressed concerns about the equity of the promotions process. For example, men expressed the feeling that women are promoted over more qualified men because of affirmative action or favoritism. Some men expressed the opinion that there was a double standard in favor of women when it came to the promotion process. Women on the other hand, believe that men are being preferentially promoted over women. Still other women believe that, to successfully compete with men, women must meet a higher standard than their male peers.¹²

¹⁰Laura Miller, *Social Psychology Quarterly*, Vol. 60, p. 45.

¹¹Laura Miller, "Feminism and the Exclusion of Army Women from Combat," Working Paper No. 2, Project on U.S. Post Cold War Civil Military Relations, John M. Olin Institute for Strategic Studies, Harvard University, 1995, p. 12.

¹²DACOWITS.

No Studies Have Been Done Specifically Addressing Perceptions of Inequities

Some DOD-wide assignment policies prevent women from holding particular assignments. For example, the Army, Air Force and Marine Corps have closed some positions to women because they would be required to serve in a combat unit or collocate with a combat unit. For example, enlisted women below the rank of staff sergeant are barred from 25 percent of the Marine Corps' administrative billets because these billets are in combat units.

Some positions that are listed as being open to women actually require, as a prerequisite, a skill or occupation that is closed to women. For example, although the Army lists the drill sergeant position as a gender-neutral position, some are closed to women because they are coded as requiring infantry skills. In addition, the Air Force has a number of non-flying positions that are coded as requiring combat aircraft experience, an experience that was unavailable to women until 1993. Similarly, the Navy has shore-based assignments that are coded as requiring warfare specialties that were either closed to women until 1994 or remain closed to women. Such assignments would include the executive officer's position at Navy submarine bases.

In addition, there are an unknown number of positions in each service that are effectively closed to women because of the informal and unofficial discretionary assignment decisions of military commanders. Because such decisions are not formally sanctioned by the services, they are not tracked by the services. Such policies can affect the assignment of both women and men in the military. One often cited example is a male commander who refuses to select a woman for a driver or aide because of the fear of rumors or sexual harassment charges. Another example is a commander or supervisor who assigns or reassigns women to administrative rather than technical duties that may not fully utilize the skills they were trained in. On paper, the positions may appear to be filled by women, but women may not actually work in the unit or perform their specific occupational duties. According to a 1997 report by the RAND Corporation, reasons for this may include supervisors who (1) believe they have enough women in the unit, (2) exclude women because of their personal interpretation of the collocation policy, or (3) allow women in the unit but assign them all of the unit's administrative duties.¹³

We found no studies that directly addressed whether service assignment policies and practices or the ground combat exclusion policy have an

¹³Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand, 1997) p. 31.

inequitable impact on career opportunities of men and women. Consequently, we examined the data submitted by the services as part of their annual equal opportunity assessments to determine whether men and women were selected at similar rates for promotion, key assignments, and professional military education.¹⁴ While this data provides some insight into the relative career success of servicemen and servicewomen, it does not address the specific perceptions of inequitable career opportunities raised by military personnel.

Men and Women Generally Promoted at Similar Rates

In an earlier report, we examined the promotion data provided by the services as part of their Military Equal Opportunity Assessments.¹⁵ This data includes most of the services' promotions to the top enlisted ranks and the top non-flag officer ranks. As shown in table 2.1, in 47 of 58 officer promotion boards (81 percent) and 49 of the 60 enlisted promotion boards or examinations (about 82 percent), the military across DOD selected men and women at similar rates. For those selections in which significant differences occurred, the majority in the Air Force, Navy, and Marine Corps were in favor of women, in both the enlisted force and officers. Only the Army had more significant differences that were in favor of men. Of the Army's 30 promotion boards or examinations, 25 (83 percent) resulted in men and women being selected at similar rates. For the remaining five, one was in favor of enlisted men, two were in favor of male officers, and two were in favor of enlisted women.

¹⁴For more details about the services' selection rates for promotions, key assignments and professional military education refer to Gender Issues (GAO/NSIAD-98-157, May 26, 1998).

¹⁵Gender Issues (GAO/NSIAD-98-157, May 26, 1998).

Chapter 2
Complete Data Not Available to Assess
Whether Men and Women Are Treated
Equitably in Career Opportunities

Table 2.1: Comparison of Promotion Board Selections by Gender, Fiscal Years 1993 Through 1997

Service	Number of comparisons	Number showing no difference	Percent showing no difference	Number in favor of women	Percent in favor of women	Number in favor of men	Percent in favor of men
All promotions							
Air Force	29	23	79.3	6	20.7	0	0
Army	30	25	83.3	2	6.7	3	10.0
Marine Corps	29	22	75.9	6	20.7	1	3.4
Navy	30	26	86.7	4	13.3	0	0
Total	118	96	81.4	18	15.3	4	3.4
Officer promotions							
Air Force	14	10	71.4	4	28.6	0	0
Army	15	13	86.7	0	0	2	13.3
Marine Corps	14	9	64.3	4	28.6	1	7.1
Navy	15	15	100.0	0	0	0	0
Total	58	47	81.0	8	13.8	3	5.2
Enlisted promotions							
Air Force	15	13	86.7	2	13.3	0	0
Army	15	12	80.0	2	13.3	1	6.7
Marine Corps	15	13	86.7	2	13.3	0	0
Navy	15	11	73.3	4	26.7	0	0
Total	60	49	81.7	10	16.7	1	1.7

Source: GAO analysis of DOD data.

We reviewed six types¹⁶ of promotion boards in each of the four services for fiscal years 1993 through 1997 and found only one type of board selected the same gender at significantly higher rates in at least 3 of the 5 years we reviewed. The Air Force promoted women to colonel at significantly higher rates than men in fiscal years 1993, 1994, 1996, and 1997.¹⁷ During these 4 years, the Air Force promoted 41 percent of the men it considered and between 52 and 61 percent of the women it considered. According to an Air Force official, the reason the Air Force promoted

¹⁶We reviewed officer promotions to major, lieutenant colonel, and colonel for the Army, Air Force, and Marine Corps and Navy promotions to lieutenant commander, commander, and captain. For the enlisted force, we reviewed promotions to master sergeant, senior master sergeant, and chief master sergeant for the Air Force; sergeant first class, master sergeant, and sergeant major for the Army; chief petty officer, senior chief petty officer, and master chief petty officer in the Navy; and gunnery sergeant, first sergeant/master sergeant, and sergeant major/master gunnery sergeant for the Marine Corps.

¹⁷In 1995, the Air Force did not hold boards for promotions to the rank of colonel.

41 percent of the men each year is because promotional opportunities to colonel are limited, by law, to 50 percent of the eligible lieutenant colonels. The 50 percent includes the above and below zone promotions, which make up about 8 percent of the promotions. The number of women being promoted at this level is small—less than 1 percent, leaving 41 percent of the promotions for men in the zone.

It is important to remember that the number of men considered for promotion and actually promoted far exceeds the number of women considered and promoted in any of the categories we looked at. For example, in 1997, the Air Force considered 2,640 men for promotion to major and selected 2,131. It also considered 222 women and selected 192 for promotion to major. Finally, it is also important to note that in some cases whether a promotion board was categorized as similar or significantly different was dependent on the selection or non-selection of only one additional servicemember. For example, we found that the Army promoted men to the rank of colonel at significantly higher rates in fiscal years 1993 and 1996. However, we also found that if the Army had promoted just one more woman in each of those 2 years, there would have been no significant difference in those 2 years. When we reviewed promotion data for all of the services, we found that in 8 of the 22 promotion boards or examinations that were categorized as having significantly different selection rates, the selection rate would have been considered similar if only one additional servicemember had been selected or not selected.

Selection Rates of Men and Women for Professional Military Education

As noted earlier, some men believe that the ground combat exclusion policy provides women with more time for career-enhancing training. We reviewed available data on selections for professional military education reported by the services in their annual Military Equal Opportunity Assessments. Professional military education is intended to provide professional knowledge required for all officers, non-commissioned officers, and some enlisted personnel. Subjects covered include leadership, command, operations, communications skills, and management. Professional military education is different from functional, or branch education and is considered a prerequisite for career advancement. Generally, the services include selections for schools that are made by centralized boards. However, the Army and the Air Force do not report enlisted professional military education opportunities while the Marine Corps and the Navy do. Also, the selection data for officers for some of the services includes only those officers nominated to attend the

various schools. Consequently, the data would not identify any disparities in the rates at which eligible male and female officers were nominated.

Looking across all services, selection rates for men and women considered for professional military education opportunities were basically similar in about 46 percent of the board or decentralized selections. For the remaining 54 percent, selections slightly favored women, 29 to 25 percent. The Army and the Navy had more significant differences in favor of men, while the Marine Corps and the Air Force had higher numbers of significant differences in favor of women. Table 2.2 shows the number of professional military education boards included in our review. The table also shows, by service, the number of boards that had no significant differences and the number that had significant differences in favor of men and women.

Table 2.2: Comparison of Professional Military Education Board Selections by Gender, Fiscal Years 1993 Through 1997

Service	Number of comparisons	Number showing no difference	Percent showing no difference	Number in favor of women	Percent in favor of women	Number in favor of men	Percent in favor of men
Air Force	10	7	70.0	2	20.0	1	10.0
Army	10	5	50.0	1	10.0	4	40.0
Marine Corps	20	7	35.0	11	55.0	2	10.0
Navy	15	6	40.0	2	13.3	7	46.7
Total	55	25	45.5	16	29.1	14	25.5

Source: GAO analysis of DOD data.

We reviewed 11 types of professional military education boards across the four services (Senior Enlisted Schools and Career, Intermediate, and Senior Level schools for officers) and found that 4 boards selected the same gender at significantly higher rates in at least 3 of the 5 years we reviewed. The Army selected men for the Army War College at a significantly higher rate in fiscal years 1994, 1995, and 1997, and the Navy selected men for its Senior Enlisted Academy at a significantly higher rate in fiscal years 1995, 1996, and 1997. The Marine Corps selected women at a significantly higher rate for its career levels schools during fiscal years 1993 through 1996 and for its intermediate level schools in fiscal year 1993, 1996, and 1997. In the cases of the Army War College and the Navy's Senior Enlisted Academy, the overall selection rates are low (less than 10 percent of all officers for the War College and less than 1 percent of all non-commissioned officers for the Senior Enlisted Academy).

Consequently, the percentages used for calculating the four-fifths test are low, and it is more likely that small percentage differences would appear significant.

In some of the cases whether a professional military education board selection rate was categorized as similar or different was dependent on the selection or non-selection of one additional servicemember. During our review, we found that the Navy selected men for post-graduate education at significantly higher rates in fiscal years 1996 and 1997. A further analysis of the data revealed, however, that if the Navy had selected one more woman in fiscal year 1996, there would have been no significant difference in that year. When we reviewed the professional military education data for all of the services, we found that in 8 of the 30 instances that were categorized as having significantly different selection rates, the selection rates for men and women would have been considered similar if one additional servicemember had been selected or not selected.

While men and women were selected for professional military education opportunities at similar rates in 25 of the 55 boards, because of the small number of women in the military, considerably more men were selected to receive professional military education opportunities than women. For example, in the 5 years we reviewed, the Air Force selected 1,101 men to attend the Air War College out of 2,438 men it considered. During the same 5 years, it selected 139 women to attend the same school out of the approximately 300 women it considered. Similarly, the Army and the Marine Corps considered and selected over 20 times as many men as it did women to attend senior level schools.

Selection Rates for Men and Women for Key Assignments

We reviewed the data for certain key assignments that the services provide when they file their yearly equal opportunity assessments. Typically, the data reported reflects assignments to command position or executive officer positions, although the services decide which key assignments data to report.¹⁸ Also, the centralized boards in the Navy and the Marine Corps considered only those officers who had been nominated for key positions. Similarly, the Air Force conducted boards for nominated officers only in its selection of officers for commanding officer positions at the colonel

¹⁸The Air Force reports data on selections as senior enlisted advisor and command assignments for majors, lieutenant colonels, and colonels. The Army reports on assignments to command sergeant major positions and assignments to commands at the lieutenant colonel and colonel level. The Navy provides data for the command master chief position and command or executive officer positions at the lieutenant commander, commander, and captain levels. The Marine Corps provides no data on enlisted key assignments and does not provide data on officer key assignments by rank.

level up until 1996, when it began conducting boards including all colonels. Analysis of 60 key assignment selection boards showed that, of those being considered, the military as a whole selected men and women for key assignments at similar rates in 32 of the selection boards in fiscal years 1993 to 1997 (see table 2.3). When significant differences occurred, they were in favor of men in about two-thirds of the cases. For the 28 key assignment selections where significant differences occurred, 19 were in favor of men. The Air Force and the Navy had more instances of significant differences in favor of men, the Army had slightly more significant differences in favor of women, and the Marine Corps had no significant differences.

Table 2.3: Comparison of Key Assignment Selections by Gender, Fiscal Years 1993 Through 1997

Service	Number of comparisons	Number showing no difference	Percent showing no difference	Number in favor of women	Percent in favor of women	Number in favor of men	Percent in favor of men
Air Force	20	13	65.0	1	5.0	6	30.0
Army	15	6	40.0	5	33.3	4	26.7
Marine Corps	5	5	100.0	0	0	0	0
Navy	20	8	40.0	3	15.0	9	45.0
Total	60	32	53.3	9	15.0	19	31.7

Source: GAO analysis of DOD data.

We reviewed the selections made for 12 types of key assignments across DOD for fiscal years 1993 through 1997 and found that in four cases, the same gender was selected at significantly higher rates in at least 3 of the 5 years we reviewed. These included the selections for Army command sergeant major, Army colonel commands, and Navy commands at the commander and captain level. The Army selected men for command sergeant major at significantly higher rates in fiscal years 1993, 1996, and 1997 and selected women for colonel commands at a significantly higher rate in fiscal years 1994 through 1996. In both of these cases, the selection of one servicemember more or less would have resulted in similar selection rates. For example, if the Army had selected one less woman for a colonel level command in fiscal years 1995 and 1996, there would have been no significant differences in either of those years. Similarly, if the Army had selected one less man for command sergeant major in 1997, there would have been no significant difference that year. On the other hand, if the Army had selected one more woman in 1993, the difference in selection rates would not have been significant.

The Navy selected men at significantly higher rates for executive or commanding officer at the commander level in fiscal years 1994, 1995, and 1997 and for commanding officer at the captain level in fiscal years 1993, 1994, 1995, and 1997. Although the Navy did not know the specific reasons why men were selected at higher rates, officials suggested some factors that could have impacted the selection rate. One factor, according to Navy officials, was that women were legally prohibited from serving on combat ships until 1993 and their lack of afloat experience limited their competitiveness when compared to men. Even though the exclusion has been lifted, officials said senior women's lack of sea experience will continue to make them less competitive than senior men. In addition, according to the Navy, most sea and operational commands require a warfare specialty. Since many senior women officers did not have the opportunity to acquire a warfare specialty, their command opportunities are limited to certain shore commands.

Conclusions

Research studies have indicated that men and women have widely varying perceptions about equity in the area of career opportunities. In particular, women tend to see assignment policies and practices as operating to their detriment, while men perceived them as working to the benefit of women. In the absence of data or studies related directly to the issues raised by the servicemen and servicewomen, we analyzed available data reported by the services in their annual Military Equal Opportunity Assessment reports. This data included aggregate selection rates for promotions to most senior enlisted and non-flag officer ranks, certain key assignments, and certain professional military education. Overall, this data did not show systemic gender disparities in favor of men or women. However, additional data would be needed to directly address many of the most frequently cited perceptions of inequities. DOD and service officials were unaware of any studies of assignment practices at the unit level that could restrict women from performing the full range of duties in their occupation or whether prerequisites are unfairly attached to positions that would otherwise be open to women.

Recommendations

To provide DOD and service officials with information to address perceptions of gender inequities in position prerequisites and skill utilization, we recommend that the Secretary of Defense direct the services to assess whether

- requirements for skills or specialties that are presently closed to women or have only recently been opened to women are being inappropriately used as prerequisites for positions that are otherwise open to women and
- men or women are receiving an equal opportunity to work within the area of their military specialties.

Agency Comments and Our Evaluation

In comments to a draft of our report, DOD generally concurred with both our findings and recommendations and said that DOD would be working with the services to develop methodologies to assess both matters within the next 18 months. While DOD did not question the perceptions cited in our report, they believe that it is important to note that there is not always data to support them. We agree that various perceptions may be inaccurate, which reinforces the need to assess whether the perceptions are supported by the facts.

The Equity of Physical Fitness Standards Cannot Be Determined at This Time

Physical fitness is a fundamentally important part of military life for both men and women.¹ Each year, thousands of servicemembers are denied promotions, schooling, or other benefits for failing to meet fitness standards. The growing role of women in many military occupations has been accompanied by debate over whether the fitness standards are fair and appropriate to both men and women in today's military.

Different Fitness Standards for Men and Women Do Not Necessarily Constitute a Double Standard

Many servicemembers believe that the services' physical fitness standards are measures of one's ability to perform in a combat environment² or are related to a specific job or occupation. Some see the existence of different physical fitness standards for men and women as a "double standard". Different fitness standards are seen as evidence that women will perform less well in a combat environment and as proof that women cannot make it in the military. Some men question whether women can compete for physically-demanding jobs when their fitness standards are so much lower than the men's standards. As one man commented to researchers; "It does not seem fair that a 44-year old man is held to a higher standard than a 19-year old woman."³ Men often comment that they believe that if women want to be treated equally, they should be held to the same physical standards as men. Some women agree that both men and women should meet a single physical fitness standard. According to one study,⁴ the few women who support the idea of a single physical fitness standard do so because they are tired of hearing men complain about the inequity of the two standards. Other women believe that separate standards discredit women and perpetuate the idea of women as "second class citizens." Many of these perceptions, however, may be the result of confusion regarding the two kinds of physical requirements that a servicemember may have to meet: job-specific physical performance standards and general physical fitness standards.

The purpose of job-specific physical performance standards is to ensure that those personnel assigned to physically-demanding jobs are capable of performing those jobs. Section 543 of the Fiscal Year 1994 National Defense Authorization Act requires the Secretary of Defense to prescribe

¹For a more detailed review of the service physical fitness programs, see Gender Issues (GAO/NSIAD-99-9, Nov. 17, 1998).

²Margaret C. Harrell and Laura L. Miller, New Opportunities for Military Women: Effects Upon Readiness, Cohesion, and Morale (Washington, D.C.: Rand 1997) p. 47.

³DACOWITS.

⁴The Secretary of the Army's Senior Review Panel Report on Sexual Harassment, July 1997 p. 63.

specific physical requirements for servicemembers in any occupation in which the Secretary has determined that strength, endurance, and cardiovascular capacity are essential to the performance of duties. The act requires that in any military occupation that is open to both men and women, the Secretary shall ensure that qualification for and continuance in that occupational career field is evaluated on the basis of common, relevant performance standards, without differential standards or evaluation on the basis of gender. In other words, job-specific physical performance standards would identify the minimum level of physical capability needed for successful performance and anyone in that occupation, regardless of gender or age, would be required to meet the same standard. However, only the Air Force currently uses physical performance standards.⁵ DOD believes that there is no need to develop such standards because there is no evidence that servicemembers are unable to do their jobs due to a lack of physical strength.

The purpose of general fitness standards, on the other hand, is to maintain the overall health and conditioning of personnel. Each of the services tests its personnel against these standards regardless of occupation. As such, these standards are not intended to specifically enhance the performance of a particular mission or job. Consequently, performance on an annual service fitness test is not a measure of capability to perform in a military combat environment.

Aside from not being intended to measure ability to perform military jobs, research has identified little correlation between performance on fitness test activities such as timed runs, push-ups, and sit-ups, and specific military task performance. According to a 1998 National Academy of Sciences report,⁶ the majority of the military's physically-demanding occupations involve occasional to frequent lifting and load carrying. However, the report found little association between performance on push-up, sit-up, and unloaded distance running tests, and lifting and load carrying ability. Researchers concluded that this was so because tasks such as unloaded distance running were rarely a part of a soldier's military duties, and the body type required to excel at lifting, for example, was different than that required for distance running. Leaner individuals are favored in unloaded distance running, while larger people do better at lifting.

⁵Physically-Demanding Jobs: Services Have Little Data on Ability of Personnel to Perform (GAO/NSIAD-96-169, July 9, 1996).

⁶Assessing Readiness in Military Women: The Relationship of Body Composition, Nutrition, and Health (Washington, D.C.: National Academy Press, 1998).

The 1992 President's Commission on the Assignment of Women in the Armed Forces looked closely at the issue of physical strength and endurance requirements. The Commission concluded that since physical fitness standards are established to promote the highest level of general wellness in the armed forces and are not aimed at assessing capability to perform specific jobs or missions, it is appropriate to adjust the standards for physiological differences among servicemembers.⁷ The purpose of physical fitness standards, as being intended only to set a minimum level of general fitness and health, was reiterated in a 1995 DOD report to the Congress on gender-neutral training standards⁸ and recently confirmed by the Office of the Secretary of Defense official responsible for overseeing the fitness program.

Because it is appropriate to adjust general fitness standards for physiological differences among servicemembers, such as those associated with gender or age, the mere existence of different fitness standards for men and women does not constitute a "double standard." General fitness standards can be different for men and women without being inequitable. Reports by the National Academy of Sciences and others indicate that, in addition to being generally smaller, female soldiers have only 50 to 70 percent of a male's strength, with the greatest disparity in the area of upper body strength. Women have smaller lung capacities and hearts than men. Women also carry about 10 percentage points more body fat than men. As a result of these and other differences, women exerting the same effort as men in running, push-ups, and other cardiovascular and muscular endurance tests are generally at a disadvantage. Therefore, a single fitness standard applicable to both men and women would be unfair to women because meeting that standard would require a much higher level of effort from a woman than it would from a man.

Fitness Standards for Women Are Not Scientifically-Based

To be equitable, male and female fitness standards should require both men and women to exert the same amount of effort to receive the same scores on fitness tests. Many men and women believe that the women's

⁷Report to the President, Presidential Commission on the Assignment of Women in the Armed Forces, 1992, p. 5.

⁸Gender Neutral Standards, report to the House Committee on National Security, Senate Committee on Armed Services, House and Senate Committees on Appropriations, by the Office of the Assistant Secretary of Defense (Force Management Policy), April 1995.

standards are easier for women to meet than the men's standards are for men to meet.⁹

It is not possible at this time to determine whether male and female standards require the same expenditure of effort because the services did not develop the women's standards scientifically. Male fitness standards were usually based on actual data on the performance of men in the run, push-ups, or other such tests. However, female standards were often estimated, inferred from male data, or based on command judgment rather than actual performance in fitness tests.

A 1995 study by the Army¹⁰ concluded that its current physical fitness program contained gender disparities, with some women's standards being less demanding than they should be, and not based on scientific research. For example, according to the report, research indicates that women's world record times for events similar to the 2-mile run are 8 to 12 percent slower than men's, but Army standards allow women to run 19 percent slower than men and still get the same score. Similarly, research found that women performed sit-ups at 95 to 110 percent of the male rate, but Army standards required women to perform at only 93 percent of the men's standards. Officials at the Army Physical Fitness School could not fully document the rationale behind the standards. They believed that the minimum requirements were based on actual data collected in the early 1980s, but the incremental steps up to the maximum scores were based on simple numerical progressions, not actual performance data.

Beginning in October 1998, the Army was scheduled to implement new fitness standards based on a more scientifically-based approach, with a gender-neutral, "equal points for equal effort" policy. The Army delayed the implementation of these standards until January 1999 to allow for additional review and feedback from commanders, and to complete and distribute new fitness scorecard forms. The new standards generally toughen the requirements for both sexes and require women to perform the same number of sit-ups as men. Women's push-up standards would be increased from 44 to about 50 percent of the male standard and female run times set about 14 to 16 percent slower than male times. According to the Army study, these changes are consistent with a narrowing physical performance gap between the genders in recent years.

⁹Laura Miller, *Social Psychology Quarterly*, Vol. 60, p. 44.

¹⁰Army Physical Fitness Test Update Survey, 1995.

Navy standards for the 1-1/2 mile run/walk, push-ups, and sit-up exercises for men and women 30-years old and above are based on the distribution of actual scores for thousands of Navy men and women identified in Navy research reports. However, 1-1/2 mile run standards for women under 30-years old were set by adding time to the men's standards and not by using women's actual run times. Effective September 1998, the maximum time allowed for women under 30 to complete the 1-1/2 mile run was lowered by as much as 1 minute 15 seconds. The new female standards were derived by multiplying the men's standards by a factor to reflect a mean 18-percent difference between male and female aerobic capabilities, as calculated by Navy researchers, rather than using actual performance data. According to Navy documents and discussions with officials, this change was made because officials believed that the existing 4-minute difference between male and female standards was not appropriate and that female standards needed to be more stringent. According to Navy officials, this change is temporary pending completion of an ongoing study of fitness scores throughout the Navy. The standards for males and for females ages 30 and older were not changed.

Marine Corps officials believed that their male standards dated back to studies conducted in 1967 showing actual male times for the 3-mile run. In January 1997, the Marine Corps raised the female run distance from 1-1/2 to 3 miles to match the male requirement. According to Marine Corps officials, studies conducted in 1993 and 1996 revealed an approximate 3-minute difference, on average, between the male and female run times. The resultant female standards were then established by adding the 3-minute average difference to the existing male standards. Marine Corps officials stated that, although the data needed to provide actual performance times was developed to ensure a solid basis for the new female standards, the process described above was used.

Air Force officials could provide no studies or other records to document the rationale for their cardiovascular endurance standards. However, according to Air Force officials, an oral history of the standards was developed through discussions with officers previously responsible for the program. According to the oral history, the cardiovascular standard was based on performance statistics from a population of Air Force men and women in the early 1990s.

Concerns Exist Regarding the Equity of Body Fat Standards

While men have generally made few comments about the weight and body fat standards, many women in all services have indicated that the weight standards and the body fat standards are unfair, unrealistic, and inequitable. For example, some women believe that the body fat measurement process favors men because of the body parts that are measured. Some minority women believe that the body fat measurement process may be racially biased. Additionally, some women believe that the standards are selectively enforced against women more than men and that women are disproportionately discharged for not meeting the body fat standards. Finally, women and men both believe that enlisted servicemembers are held to a higher standard than officers.¹¹

Our review of the body fat standards found that the female body fat standards were not scientifically determined, may not account for gender and racial differences in body type, and were developed on a population that does not reflect the ethnic make-up of today's military. Additionally, we found that neither DOD nor the services maintain adequate statistics on their fitness programs to assess whether the body fat program is equitable to both men and women.

Body Fat Standards Are Not Based on Scientific Rationales

DOD's original body fat standards were established in 1981 based on the recommendations of the study panel chartered to report on physical fitness in the military. According to the National Academy of Sciences' 1998 report,¹² the 1981 study panel recommended that both the male and female body fat standards be based on scientific texts indicating that the average body fat of physically fit young men was 20 percent and about 30 percent for fit young women, including a 5-percent margin for statistical error. DOD's guidance incorporated the 20-percent goal for men, but lowered the female goal to 26 percent. According to the National Academy of Sciences' report, DOD decreased the female goal "in the belief that it was desirable to recruit women whose body fat was closer to that of the average man, as such women, possessing a higher than average proportion of fat free mass, might also be more similar to men in strength and endurance."

The original standards were in effect until 1995, when they were changed to the current levels of 18 to 26 percent for men and 26 to 36 percent for women. DOD had no documentation of the rationale for the change.

¹¹DACOWITS.

¹²Assessing Readiness in Military Women: The Relationship of Body Composition, Nutrition, and Health (Washington, D.C.: National Academy Press, 1998)

However, service officials told us that the change was based simply on the desire to cover the full range of standards in effect in the services at the time. No scientific research was conducted.

Until September 1998, Navy regulations also based the male and female body fat standards on different rationales. The male standard is based on the 1985 National Institutes of Health definition of obesity. Navy scientists converted the 1983 Metropolitan Life weight-for-height values into mean body fat percentages of about 22 percent for men and 33 percent for women, and recommended their adoption as the maximum Navy body fat standards. The recommendation for men was adopted without change. However, according to discussions with Navy officials, command concerns about appearance resulted in a lowering of the female standard to 30 percent. The Navy revised its regulations in September 1998 to raise the female standard back to the 33-percent level originally recommended.

Marine Corps officials could not document a clear, scientific basis for either its male or female standards. However, based on our discussions with Marine Corps officials and review of regulations, the Marine Corps' body fat standards appear to be based on command judgments regarding fitness and appearance, rather than health-based actuarial studies or other scientific bases. For example, Marine Corps regulations¹³ state that the Marine Corps, more than any other service, relies on the maximum fitness of its personnel. As a result, according to the regulation, the maximum allowable percentage of body fat for male Marines was set at 18 percent. This equates to just below the midpoint of the interval between the 10-percent body fat level said by the regulation to be exhibited by marathon runners and the 30-percent level said by the regulation to represent gross obesity. Similarly, the regulation sets the female standard at 26 percent, or about 80 percent up the interval between the 11-percent body fat level said to be exhibited by average gymnasts and the 30-percent level said by the Marine Corps regulation to represent gross obesity in women.

The current Army body fat standards of 20 to 26 percent for men and 30 to 36 percent for women, according to research cited in the 1998 National Academy of Sciences report and our discussions with Army officials, are based on different rationales. The 20-percent male minimum is based on Army data on young male soldiers dating back to the 1980s. The 26-percent male maximum was determined by increasing the 20-percent minimum figure by roughly 2 percentage points for every 10 years of age to

¹³Marine Corps Order 6100.10B, March 26, 1993.

accommodate increases in body fat associated with aging. Prior to 1991, the female standards were 28 to 34 percent. Army officials told us that this percentage range was based simply on adding 8 percentage points to the male minimum for each age category. The female standard, however, came to be viewed as unfairly restrictive compared to the men's standard. For example, an Army study found that the standard provided women with only a 1 to 3 percentage point margin over the mean body fat for young female recruits, while the men's standard provided a 4 to 6 percentage point margin over the mean for young male recruits. In 1991, the women's body fat standard was increased by 2 percentage points for each age grouping, raising it to the current level of 30 to 36 percent.

For Air Force personnel, the current maximum body fat standards are 20 to 24 percent for men and 28 to 32 percent for women. Air Force officials, however, could not determine the basis for their body fat standards for either men or women.

Procedures for Determining Body Fat May Not Accurately Measure Gender and Racial Differences

The basic approach used by each service to determine the percentage of body fat has been to first, develop a set of measures of the circumference of various body sites, such as the waist and neck for men, and the neck, waist, and hips for women. Next, these measures are fed into gender-specific equations developed by each service to estimate the percentage of body fat. These equations were developed through analysis of population samples for relationships between measures of various body sites and the percentage of body fat, as validated against underwater weighing techniques.

Researchers found, however, that while this measurement approach yields consistent results for men, it does not achieve consistent results for women. According to service researchers, men have basically one body type, while women have a variety of body types. The female body fat equations do not adjust well for the variety of female body types, and thus do not consistently provide accurate estimates of the percentage of body fat. For example, we found that the different body fat equations used by the services can result in widely varying estimates of body fat for the same woman. A test we conducted found that the estimates for percentage of body fat for the same woman was 42 percent using the Army equation, 29 percent using the Navy and the Air Force equations, and 27 percent using the Marine Corps equation. The use of different equations producing such wide variation in estimates can result not only in inequities, but also in outcomes that are inconsistent with the intended objective. For

example, while the Marine Corps set its body fat standards at the most stringent level of any service, the equation it uses actually resulted in the lowest estimate of body fat of all the services.

Researchers also report that the populations of active-duty soldiers used to validate the equations have, with time, become less representative of the ethnic and age diversity of the current military population. The Army's female body fat equation, for example, was validated largely on a Caucasian population because of problems in underwater weighing of African American and Hispanic subjects, many of whom withdrew from the testing because they could not swim. According to the National Academy of Sciences' 1998 report, because the percentage of minority female soldiers is increasing and the average age of female soldiers is also increasing, the subject population used to develop and validate the equations is becoming increasingly less representative.

The National Academy of Sciences' 1998 report also concluded that the service equations are outdated because they fail to adjust for heavier bone densities in minorities. In the past, all services compared the results of their body fat equations with underwater weighing methods as a reference to check for accuracy and standardization. These techniques were based on so-called two-compartment models, which partition body weight into two basic components: fat and fat free mass (defined as the difference between body weight and fat mass). However, two-compartment models do not account for racial differences in bone density, thus potentially overstating the weight of minorities. In contrast, newer four-compartment models measure bone mass, total body water, body weight, and body volume, in part based on underwater weighing techniques. The National Academy of Sciences' report concluded that the four-compartment models which have been developed over the past decade are superior to the two-compartment models. The Marine Corps began basing its equations on the newer four-compartment models in October 1997. Navy researchers are currently developing equations based on four-compartment models for the remaining services.

Data to Assess the Gender Impact of Fitness and Body Fat Standards Not Available

Information such as the proportion of men and women unable to meet the various fitness standards, initial body fat screening, and body fat measurement could provide some insights into whether the standards have been set at equitable levels. Similarly, information on the proportion of men and women discharged for failure to meet fitness or body fat standards could provide insight into whether the standards are being selectively enforced by gender. However, these kinds of information are

not being collected uniformly across the services because of inadequate DOD oversight.

DOD has not defined the basic information it needs to monitor the services' fitness programs. While DOD and the services maintain a variety of statistics describing various aspects of physical fitness programs, it is difficult to use them to make meaningful conclusions about the services' fitness programs because of differences in comprehensiveness, the way in which data is aggregated, or other problems. For example, according to officials, the Army does not maintain a servicewide data base on physical fitness test results. Such information is decentralized to the unit level. Further, Navy officials told us that they do not separate their data by gender, so comparisons of male and female performance against the standards are not available. Other problems included unreliable information due to unit underreporting, results not separated to identify other key characteristics such as rank, or data on recent years not being available due to system changes. As a result of these problems, we were unable to determine and compare fitness and body fat failure rates over time, separation rates due to repeated failures of the fitness standards, and other such key information.

The service data that is available indicates that women consistently fail the fitness standards at higher rates than men. For example, data indicates that Army women failed the cardiovascular and muscular endurance standards at a 13-percent rate in 1995, while men failed at an 11-percent rate. Air Force data indicates that in 1997, women in that service failed in 9 percent of the cases, while men failed in 4 percent of the cases. Based on 1997 data, Marine Corps women failed at a rate of 1.1 percent, while male Marines failed at a rate of 0.8 percent. Available data on the results of the body fat test was consistent with this trend. For example, Army data for 1997 showed that female Army personnel failed in 6 percent of the cases, while Army men failed in about 5 percent of the cases. As of March 1998, about 4 percent of Air Force women were in weight management programs compared to 2 percent of men.

Recent Recommendations to Improve the DOD Fitness Program

In our recent report on DOD's fitness program, we made recommendations to improve the equity of the services' physical fitness programs.¹⁴ We recommended that the Secretary of Defense establish (1) a clear DOD-wide policy for age- and gender-based adjustments to general fitness and body fat standards, requiring all services to derive them scientifically and (2) a

¹⁴Gender Issues (GAO/NSIAD-99-9, Nov. 17, 1998).

DOD-wide approach to scientifically estimating body fat percentages. We also recommended that the Secretary of Defense define the statistical information needed to monitor fitness trends and ensure program effectiveness, and require that this information be maintained by all services and provided in the currently required annual reports. DOD concurred with these recommendations and indicated it was taking action to implement them.

Conclusions

Some of the key perceptions about the services' fitness programs are related to a fairly widespread lack of understanding about the real purpose of the fitness standards. However, it is not possible to definitively assess the accuracy of most of the perceptions of servicemembers about the fairness and equity of the service physical fitness programs because the services generally did not use a scientific approach in setting the standards or adjusting them for gender differences and the services do not maintain sufficient statistics to judge the effectiveness and fairness of their programs. We believe that implementation of the recommendations in our recently issued report will help dispel the misconceptions that fitness standards measure a servicemember's ability to perform in the military and that having different standards for men and women constitutes a "double standard."

Agency Comments and Our Evaluation

In comments to a draft of our report, DOD generally concurred with both our findings and conclusions. While DOD officials did not dispute the perceptions included in our report, they believe that it is important to note that perceptions are not always supported by facts. We agree that perceptions may not be accurate, which reinforces the need to assess whether perceptions are supported by the facts. DOD also noted that since 1996, the services have made progress in adjusting standards based on more objective data and have worked cooperatively to resolve research issues. Furthermore, DOD said that developing standards for general fitness and health is a complex matter, where academic and research experts often differ on conclusions and research.

Comments From the Department of Defense



FORCE MANAGEMENT
POLICY

ASSISTANT SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000



NOV 10 1998

Mr. Mark E. Gebicke
Director, Military Operations
and Capabilities Issues
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Gebicke:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, 'GENDER ISSUES: Information to Assess Servicemembers' Perceptions of Gender Inequities is Incomplete,' dated October 20, 1998 (GAO Code 703221/OSD Case 1710).

The Department reviewed the report and concurs, however we recommend GAO emphasize throughout the report that the perceptions of servicemembers are not necessarily supported by facts. In addition, the Department initiated a number of actions to begin revising the physical fitness and body fat program prior to the GAO review. It is important for the GAO to reflect these constructive efforts in their report. Toward this end, we recommend you include in the Executive Summary and the body of the report the following:

Developing standards and measurements for general fitness and health is a complex matter, where academic and research experts often differ on conclusions. DoD began addressing deficiencies in the November 1995 policy less than six months after it was published, when problems were brought to our attention. In 1996, the Assistant Secretary of Defense for Force Management Policy created a joint service working group to address the issues. Also in 1996, DoD asked the Institute of Medicine (IOM) to conduct a study to help analyze the often conflicting research in this area and make recommendations to improve DoD policy. Since 1996, the Services have made progress in adjusting standards based on more objective data, and have worked cooperatively to resolve research issues. Immediately after the publication of the IOM study in March 1998, the joint service working group began to analyze the recommendations and associated policy revisions.

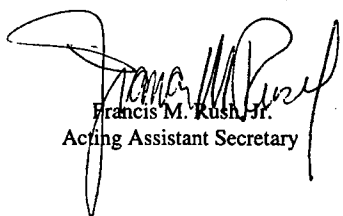
During a meeting on November 4, 1998, with members of your staff and DoD representatives, technical comments were provided directly to your staff for incorporation



Appendix I
Comments From the Department of Defense

into the report. A response to the report recommendation is provided in an enclosure to this letter. The Department appreciates the opportunity to comment on the draft report.

Sincerely,



Francis M. Rush, Jr.
Acting Assistant Secretary

Enclosure:
As stated

GAO DRAFT REPORT- DATED OCTOBER 20, 1998
(CODE 703221/ OSD CASE 1710)

"GENDER ISSUES: INFORMATION TO ASSESS SERVICEMEMBERS'
PERCEPTIONS OF GENDER INEQUITIES IS INCOMPLETE"

DEPARTMENT OF DEFENSE COMMENTS

RECOMMENDATION: To provide DoD and Service officials with information to address perceptions of gender inequities in position prerequisites and skill utilization, the GAO recommends that the Secretary of Defense direct the Services to assess whether:

- requirements for skills or specialties that are presently closed to women or have only recently been opened to women are being used inappropriately as prerequisites for positions that are otherwise open to women; and
- men or women are receiving and equal opportunity to work within the area of their military specialties. (p.14, p. 44/GAO Draft Report)

DoD Response: The Department concurs with the recommendation and will work with the Services on methodologies to assess both matters within the next 18 months.

Now on pp. 12-13, 36-37.

Major Contributors to This Report

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